Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Comparing Mitosis and Meiosis REVIEW**

Mrs. Krouse, Pre-AP Biology

**Part A**: For each of the statements below, place a checkmark in the appropriate column to identify each statement as describing mitosis, meiosis, or both.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Statement** | **Mitosis** | **Meiosis** | **Both** |
| 1 | Homologous chromosomes pair up and cross over |  |  |  |
| 2 | The parent cell divides two times |  |  |  |
| 3 | Used to create new cells for growth |  |  |  |
| 4 | DNA is replicated during the S phase of interphase before this/these process(es) start |  |  |  |
| 5 | Produces gametes |  |  |  |
| 6 | The chromosome number is maintained from parent cell to daughter cells |  |  |  |
| 7 | Daughter cells are not identical to the parent cell or to each other |  |  |  |
| 8 | Used to create new cells for asexual reproduction |  |  |  |
| 9 | Produces somatic cells |  |  |  |
| 10 | Daughter cells are identical to the parent cell and each other |  |  |  |
| 11 | Creates daughter cells with 23 chromosomes in humans |  |  |  |
| 12 | The parent cell divides one time |  |  |  |
| 13 | Produces four daughter cells |  |  |  |
| 14 | Used to create new cells for sexual reproduction |  |  |  |
| 15 | The chromosome number is halved from parent cell to daughter cells |  |  |  |
| 16 | Produces diploid daughter cells. |  |  |  |
| 17 | Creates daughter cells with 46 chromosomes in humans |  |  |  |
| 18 | Produces two daughter cells |  |  |  |
| 19 | Chromosomes line up in pairs along the metaphase plate |  |  |  |
| 20 | Chromosomes line up single file along the metaphase plate |  |  |  |
| 21 | Produces haploid daughter cells. |  |  |  |

**Part B:** For a parent cell that begins with FOUR CHROMOSOMES, decide whether the cells shown in the chart below are in a stage of mitosis OR meiosis. Explain how you know it is going through mitosis or meiosis, and identify the specific stage name for that image (options are metaphase, telophase, metaphase I, metaphase II, telophase II).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Image** | **Mitosis or Meiosis?** | **How do you know it is mitosis or meiosis?** | **Specific Stage Name** |
| 22 |  |  |  |  |
| 23 |  |  |  |  |
| 24 |  |  |  |  |
| 25 |  |  |  |  |
| 26 |  |  |  |  |